

Remarks

The applicants have canceled claims 1-39 and added claims 40-49.

New claim 40 is supported in the specification as filed at least in paragraphs [0038] and [0051] (optical fiber and thin film), [0039]-[0045] and [0052] (polymer disposed upon the thin film), and [0041] and [0053] (fluorescent molecule associated with the polymer). Claim 41 is supported at least in paragraphs [0038] and [0051] of the specification, claim 42 at least in paragraph [0051], claim 43 at least in paragraph [0051], claim 44 at least in paragraphs [0038] and [0051], claim 45 at least in paragraph [0055], claims 46-47 at least in paragraph [0044], claim 48 at least in paragraphs [0020] and [0034], and claim 49 at least in paragraphs [0034] and [0043]. Thus, none of the amendments incorporate new matter.

Rejection of claims 1-4 under 35 USC § 102

The Office has rejected claims 1-4 as anticipated by Elkind et al. (US 2002/0171841), which allegedly discloses a chemical sensor comprising an entrant medium and thin film suitable for SPR [0004], a sensing element [0009], and a fluorescent molecule associated with the sensing element [0009], and allegedly discloses the sensing element to be a polymer [0009]. The applicants respectfully traverse the rejection.

As stated in M.P.E.P. 2131, “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”

Claims 1-4 are not anticipated by Elkind, because the “fluorescent compounds” and polymers recited in paragraph [0009] of Elkind are not disclosed in connection with an SPR thin film. The “fluorescent compounds” are part of an “indicator reagent” on a solid phase ion capture material (see paragraph [0009]) rather than on an SPR sensor, and Elkind does not disclose polymeric SPR sensing elements.

Nevertheless, the applicants have canceled claims 1-4 in order to expedite prosecution. Regarding the new claims, claim 40 reads:

40. (New) *A dual-sensing surface plasmon resonance sensor comprising:*
- (a) *an optical fiber;*
 - (b) *a thin film suitable for surface plasmon resonance coated onto a surface of the optical fiber;*

- (c) *a polymer disposed upon the thin film; and*
- (d) *a fluorescent molecule associated with the polymer.*

At a minimum, Elkind does not teach or suggest at least the following limitations of claim 40: (1) an optical fiber, (2) a thin film coated onto a surface of an optical fiber, (3) a polymer disposed upon the thin film, and (4) a fluorescent molecule associated with the polymer.

Thus, the Patent Office has not established anticipation with respect to claim 40 or its dependent claims. In view of the above, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC § 102.

Rejection of claims 5-8 under 35 USC § 103

The Office has rejected claims 5-8 as allegedly unpatentable over Elkind et al. in view of Jenkins et al. (Analytical Communications, 1997). The Office concedes that Elkind does not specifically disclose the fluorescent molecule to comprise a lanthanide signal transducer crosslinked to a specific polymer, and asserts that Jenkins discloses a lanthanide-polymer complex capable of acting as a chemical sensor and signal transducer. Applicants respectfully traverse the rejection.

As stated in M.P.E.P. 2143.03, “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.”

As discussed above, Elkind does not teach, suggest, or make obvious all of the claim limitations recited in claim 40, and the disclosure of Jenkins does not cure the deficiencies of Elkind. Thus, the Office has not established a prima facie case of obviousness with respect to claim 40 or its dependent claims, and the applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC § 103.

Conclusion

The applicants respectfully contend that all conditions of patentability are met in the pending claims as amended. Allowance of the claims is thereby respectfully solicited.

If there are any questions or comments regarding this application, the Examiner is encouraged to contact the undersigned in order to expedite prosecution.

Respectfully submitted,

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